

## CLAIMS

What is claimed is:

1. A laser diode for an optical pickup, comprising:  
at least one active connector; and  
a ground connector,  
wherein the at least one active connector and the ground connector protrude from the laser diode so as to be electrically connectable to a laser diode driving integrated circuit and the ground connector is longer than the at least one active connector.
2. The laser diode according to claim 1, wherein the end of the ground connector is acutely shaped compared to the end of the least one active connector.
3. The laser diode according to claim 1, the at least one active connector comprising:  
a first connector, and  
a second connector.
4. The laser diode according to claim 3, wherein the first connector is a laser diode connector and the second connector is a photodiode connector.
5. A laser diode for an optical pickup, comprising:  
at least one active connector, and  
a ground connector,  
wherein the at least one active connector and the ground connector protrude so as to be electrically connectable to a laser diode driving integrated circuit an end of the ground connector is acutely shaped compared to an end of the at least one active connector.
6. A laser diode for a printed circuit board connectable to a laser diode driving device of an integrated circuit of an optical pickup, comprising:  
at least one active connector fixedly insertable into the printed circuit board; and  
a ground connector fixedly insertable into the printed circuit board, wherein the inserted at least one active connector and the ground connector are electrically connectable to the laser diode driving integrated circuit protruding through the back of the printed circuit board and a protruding portion of the ground connector is longer than a protruding portion of the at one least active connector.

7. The laser diode according to claim 6, wherein the inserted at least one active connector and the ground connector are fixed to the printed circuit board by solder joints.

8. The laser diode according to claim 6, wherein an end of the protruding portion of the ground connector is acutely shaped compared to an end of the protruding portion of the at least one active connector.

9. The laser diode according to claim 6, the at least one active connector comprising:

a first connector, and  
a second connector.

10. The laser diode according to claim 9, wherein the first connector is a laser diode connector and the second connector is a photodiode connector.

11. A laser diode a printed circuit board connectable to a laser diode driving device of an integrated circuit of an optical pickup, comprising:

at least one active connector fixedly insertable into the printed circuit board, and  
a ground connector fixedly insertable into the printed circuit board,

wherein the inserted at least one active connector and the ground connector are electrically connectable to the laser diode driving integrated circuit protruding through the back of the printed circuit board, and an end of the protruding portion of the ground connector is acutely shaped compared with an end of the protruding portion of the at least one active connector.

12. The laser diode according to claim 11, wherein the inserted at least one active connector and the ground connector are fixed to the printed circuit board by solder joints.

13. The laser diode according to claim 12, the at least one active connector comprising:

a first connector, and  
a second connector.

14. The laser diode according to claim 13, wherein the first connector is a laser diode connector and the second connector is a photodiode connector.

15. A laser diode for an optical pickup, comprising:  
at least one active connector; and  
a ground connector longer than the at least one active connector and more acutely shaped than an end of the at least one active connector.

16. The laser diode according to claim 15, the at least one active connector comprising:

a first connector, and  
a second connector.

17. The laser diode according to claim 16, wherein the first connector is a laser diode connector and the second connector is a photodiode connector.

18. A printed circuit board system connectable to a laser diode driving integrated circuit of an optical pickup, comprising:

a printed circuit board; and  
a laser diode having at least one active connector and a ground connector, the connectors insertable into the printed circuit board,

wherein the inserted at least one active connector and the ground connector protrude from the laser diode so as to be electrically connectable to the laser diode driving integrated circuit and the ground connector is at least longer than the at least one active connector and more acutely shaped than the at least one active connector.

19. The printed circuit board system according to claim 18, wherein the inserted at least one active connector and the ground connector are fixed to the printed circuit board by solder joints.

20. The printed circuit board system according to claim 18, the at least one active connector comprising:

a first connector, and  
a second connector.

21. The printed circuit board system according to claim 20, wherein the first connector is a laser diode connector and the second connector is a photodiode connector.

22. A laser diode driving integrated circuit system for an optical pickup, comprising:  
a laser diode driving integrated circuit;  
a printed circuit board connectable to the laser diode driving integrated circuit; and  
a laser diode having at least one active connector and a ground connector, the connectors insertable into the printed circuit board,

wherein the inserted at least one active connector and the ground connector protrude from the laser diode so as to be electrically connectable to the laser diode driving integrated circuit and the ground connector is longer than at least one active connector and more acutely shaped than the at least one active connector.

23. The laser diode driving integrated circuit system according to claim 22, wherein the inserted at least one active connector and the ground connector are fixed to the printed circuit board by solder joints.

24. The laser diode driving integrated circuit system according to claim 22, the at least one active connector comprising:  
a first connector, and  
a second connector.

25. The laser diode driving integrated circuit system according to claim 24, wherein the first connector is a laser diode connector and the second connector is a photodiode connector.

26. A method of reducing malfunctions due to electrostatic discharge of a laser diode insertable into a printed circuit board that is connectable to a laser diode driving integrated circuit of an optical pickup, comprising:

inserting the laser diode into the printed circuit board so that active connectors and a ground connector protrude through the printed circuit board; and

at least one of cutting the active connectors and the ground connector so that the active connectors are shorter in length than the ground connector and cutting the end of the ground connector so that the ground connector is more acutely shaped than the active connectors.

27. The method according to claim 26, further comprising soldering the connectors to the printed circuit board.

28. The method according to claim 26, wherein the inserted at least one active connector and the ground connector are fixed to the printed circuit board by solder joints.

29. The method according to claim 28, the at least one active connector comprising:  
a first connector, and  
a second connector.

30. The method according to claim 29, wherein the first connector is a laser diode connector and the second connector is a photodiode connector.